

## Hierarchical Level and Leadership Style

ARTHUR G. JAGO AND VICTOR H. VROOM

*School of Organization and Management, Yale University*

This research investigates the relationship between the hierarchical level of managerial personnel and individual differences in their leadership styles, specifically the degree to which they are disposed to the use of participative versus autocratic decision-making strategies. Analysis of self-report data collected from four different levels of managers suggests a greater propensity for use of participative methods at higher organizational levels. Subordinate descriptions of their immediate superiors further support this relationship. However, members asked to describe this relationship reveal perceptions incongruent with the direction of effect implied by the between-level group differences. Reasons for the incongruity and its implications for the organization are discussed.

Large scale formal organizations have multiple hierarchical levels and are pyramidal in shape. As one ascends the managerial hierarchy, the number of managers at each level progressively diminishes and the nature of their responsibilities becomes less concerned with the direction of day-to-day operations and more concerned with diagnosing environmental changes and planning the organization's responses to these changes.

While managers at lower and higher levels in the organization have different responsibilities, their roles share one common property. All managers, regardless of level, have subordinates reporting to them and their effectiveness as managers is to some degree dependent on the extent to which their leadership style mobilizes the energy of these subordinates toward the goals of the organization. This research investigates one dimension of managerial leadership and its relationship with hierarchical position. Specifically, our purpose is to identify the extent to which behaviors associated with participative as opposed to autocratic management are observed to vary with organizational level.

At least four empirical studies support the general proposition that more participative practices are likely to be observed at higher hierarchical levels. Blankenship and Miles (1968) and Heller and Yukl (1969) used similar methodologies and found that managers at higher levels exhibit greater "reliance on subordinates" and "less centralized decision-

This research was sponsored by the Organizational Effectiveness Research Programs, Psychological Sciences Division, Office of Naval Research, Contract Number N00014-67-A-0097-0027, Contract Authority Identification Number NR-177-935; Victor H. Vroom, Principal Investigator. Reproduction in whole or in part is permitted for any purpose of the United States Government.

Dr. Jago's present address is: Department of Organizational Behavior and Management, University of Houston, Texas 77004.

making," respectively; using different methodologies, data collected by Brinkerhoff (1972) and Steinman (1974) can be argued to further support such a relationship. The literature also provides several reasons for such a relationship. One set or class of reasons suggests the cause to be found in differences in the nature of managerial roles at different levels (Bass & Barrett, 1972; Leavitt, 1964). Such explanations presume (1) the existence of systematic differences among the decision-making situations confronting managers at the various levels in the hierarchy (Hemphill, 1960; Martin, 1959; Mintzberg, 1973), and (2) the influence situational differences have on one's use of participative versus autocratic decision techniques (Heller, 1971; Hill & Hughes, 1974; Vroom & Jago, 1974; Vroom & Yetton, 1973).

A second set of reasons, more central to this research effort, is also apparent. From the proposition that behavior is a function of both the person and the situation, it is possible that systematic differences in participativeness result from differences in relatively stable properties of persons found at different hierarchical levels. Such covariation would be expected if individuals are promoted to higher level management positions on the basis of participative rather than autocratic behavior (Bennis & Slater, 1968). Alternatively, the covariation would be expected if managers, moving from one level to another, acquire new systems of beliefs and values relevant to the management of people. Beliefs and values may change as managers encounter both new information and different norms at higher hierarchical levels. (cf., Lieberman, 1956).

Aside from its precise cause little evidence exists to suggest a reliable covariation between such individual differences and hierarchical level. Few studies have adequately controlled for the situational differences likely to be found at different hierarchical levels, thereby preventing conclusions concerning relationships between level and individual differences. An exception, however, is the cross-cultural attitude survey of Haire, Ghiselli and Porter (1966). They investigated the relationship between level and responses to eight attitude-questionnaire items designed to measure agreement with assumptions underlying a democratic-participative approach to management. Results are presented for 14 countries. Of these, only England and the United States showed consistent trends, and these are opposite in direction. In England democratic-participative attitudes were more likely to characterize higher level managers, whereas such managers in the United States were more likely to espouse authoritarian attitudes. No explanation is offered for this apparent cultural difference, nor does the investigation provide evidence that variance in these attitudes is predictive of variance in behavior.

This research further investigates the relationship between individual dispositions toward participation and managerial level. The methodology

employs a measure of behavioral intent rather than of attitude in an attempt to better understand the relationship between these individual differences and the more general proposition that participative behavior increases with level. Provisions are also made to test respondents' perceptions of the nature of the relationship.

### METHODOLOGY

The relationship between leadership style and hierarchical level was studied in a large R & D organization. Data were collected from samples of personnel at four consecutive hierarchical levels in the organization, labeled here *L0* through *L3* (sample sizes at each level are given in parentheses):

*L0* ( $N = 134$ ) . . . the Technical Professionals. Generally graduate-educated personnel representing a variety of technical disciplines, these staff members had no formal supervisory role in the organization's hierarchy.

*L1* ( $N = 105$ ) . . . Supervisors with managerial responsibility for a varying number of technical professionals and technicians.

*L2* ( $N = 72$ ) . . . Section Heads each responsible for the general functioning of a different section, including managerial responsibility for several supervisors.

*L3* ( $N = 43$ ) . . . Division Heads each responsible for a division within the organization including managerial responsibility for several Section Heads.

Other levels exist within the organization but were not used as sources of data in this investigation.

The leadership styles, specifically the degree and frequency of leader participation, represented at each of these four organizational levels were investigated through the use of an instrument developed in the course of previous research and described in detail elsewhere (Vroom & Yetton, 1973). This "Problem Set" contains case descriptions of 30 decision situations chosen from among hundreds of actual scenarios submitted by managers from a variety of organizations. Each of the sampled personnel was asked to consider each case as if he were the manager depicted and to decide which of five decision processes he would use to resolve the problem or reach a decision. Table 1 shows an illustrative case and the written description of the five processes furnished each respondent.

Subjects were instructed to specify "how they would act rather than how they should act" and were promised, as part of a subsequent management development workshop, a detailed computer-generated analysis of their leadership styles based on their responses. The confidentiality of

TABLE 1  
ILLUSTRATIVE CASE AND AVAILABLE DECISION-MAKING PROCESSES

Setting

You are president of a small but growing midwest bank, with its head office in the state's capital and branches in several nearby market towns. The location and type of business are factors which contribute to the emphasis on traditional and conservative banking practices at all levels.

When you bought the bank five years ago, it was in poor financial shape. Under your leadership, much progress has been made. This progress has been achieved while the economy has moved into a mild recession, and as a result, your prestige among your bank managers is very high. Your success, which you are inclined to attribute principally to good luck and to a few timely decisions on your part has, in your judgment, one unfortunate by-product. It has caused your subordinates to look to you for leadership and guidance in decision-making beyond what you consider necessary. You have no doubt about the fundamental capabilities of these men but wish they were not quite so willing to accede to your judgment.

You have recently acquired funds to permit opening a new branch. Your problem is to decide on a suitable location. You believe that there is no "magic formula" by which it is possible to select an optimal site. The choice will be made by a combination of some simple common sense criteria with "what feels right." You have asked your managers to keep their eyes open for commercial real estate sites that might be suitable. Their knowledge about the communities in which they operate should be extremely useful in making a wise choice.

Their support is important because the success of the new branch will be highly dependent on your managers' willingness to supply staff and technical assistance during its early days. Your bank is small enough for everyone to feel a part of a team, and you feel that this has and will be critical to its prosperity.

The success of this project will benefit everybody. Directly they will benefit from the increased base of operations, and indirectly they will reap the personal and business advantages of being part of a successful and expanding business.

Available responses

- AI You solve the problem or make the decision yourself, using the information available to you at the time.
- AII You obtain the necessary information from your subordinates, then decide the solution to the problem yourself. You may or may not tell your subordinates what the problem is in getting the information from them. The role played by your subordinates is clearly one of providing the necessary information to you, rather than generating or evaluating alternative solutions.
- CI You share the problem with the relevant subordinates individually, getting their ideas and suggestions without bringing them together as a group. Then *you* make the decision, which may or may not reflect your subordinates' influence.
- CII You share the problem with your subordinates as a group, obtaining their collective ideas and suggestions. Then you make the decision, which may or may not reflect your subordinates' influence.
- GII You share the problem with your subordinates as a group. Together you generate and evaluate alternatives and attempt to reach agreement (consensus) on a solution. Your role is much like that of a chairman. You do not try to influence the group to adopt "your" solution, and you are willing to accept and implement any solution which has the support of the entire group.

all responses and the computer feedback was assured. Other observations suggest that respondents took this preworkshop assignment very seriously and devoted between two and three hours to the task of reading the cases and deciding how they would act in each situation.

For a large number of respondents, an additional type of data was collected: All *L*0 and 40 of the *L*1 subjects were asked to consider each of the 30 cases as if their own immediate supervisor was the manager depicted. Each was then asked to choose as accurately as possible which of the five decision processes he thought his superior would display were he the leader depicted in the situation. These subjects recorded their descriptions of superiors and sent them directly to the authors. They were assured that their anonymity regarding these responses would also be protected and that any feedback to their managers would be in the form of aggregated scores computed across subordinates.

Similar data were also collected from a sample ( $N = 55$ ) of subordinates of *L*3 managers. These respondents provided descriptions of their superiors' behavior but were not a part of the sample of managers who provided data concerning their own leadership style. One should note that subordinate descriptions of superiors were obtained from a subset of the superiors. Thus data from each subordinate who described his superior can be matched with results from that superior. However, the converse is not true—subordinate data are not available for each superior in the sample.

Vroom and Yetton propose that the five alternatives in Table 1 vary along a unidimensional scale corresponding to the amount of opportunity afforded subordinates to participate in decision-making. They have assigned the following values to these decision processes, based on the results of three scaling procedures—AI = 0; AII = .625; CI = 5.0; CII = 8.125; GII = 10.0. Higher scale values represent greater opportunity for subordinate involvement in the making of a decision.

The data furnished by a set of responses to the problem set can, through the use of the preceding scale values, be treated as a set of 30 discrete raw scores from which various aggregate statistics such as mean and variance can be computed. Similar statistics can be generated for meaningful subsets of problems as well. (The problem set was designed in accordance with a multifactorial experiment in which the cases vary systematically in their possession or absence of seven attributes; Vroom & Yetton, 1973, Chap. 5.)

To supplement the problem-set data, a subset of *L*1 managers was asked to rate the average participativeness of several levels of management. The precise form of this question is further explained in the presentation of results.

## RESULTS

The degree to which a manager involves his subordinates in decision-making is a function of both his predisposition to a level of participativeness and the nature of the problems he encounters (Vroom & Yetton, 1973). Just as one can think of autocratic managers differing from participative managers, one can identify situations which tend to elicit autocratic behavior and other situations that are more likely to be dealt with in a participative fashion. Differences in the behavior of managers at different hierarchical levels might therefore be attributed to two sources, differences in those who occupy the roles at different levels and differences in the types of problems they encounter within those roles.

The use of a standardized problem set administered to subjects in this research allowed us to study the differences among role occupants with confounding due to role demands minimized. All subjects were asked to think of themselves as the managers depicted in the same set of problems. Since the stimuli were constant across hierarchical levels, differences among the responses of groups of subjects can be attributed to differences among the groups of subjects themselves.<sup>1</sup>

### *Between Level Analyses: Hierarchical Level and Participativeness Positively Related*

Differences among the self-reported behavior of the four hierarchical levels are evident in percent of use of the five decision processes (AI through GII) shown in Table 2. Also presented for each level is MLP (Mean Level of Participation), a measure of the average participativeness of each respondent. This score is obtained by multiplying the frequency of decision processes of each type, expressed as a proportion of 30, by the appropriate scale value. Since MLP scores are computed across a standard set of cases, differences in this score among subjects reflect in one global measure individual differences in their participativeness, i.e., their propensity to share or retain power in decision-making situations.

Differences among levels were tested by one-way analysis of variance. In addition to the standard tests involving between-group effects, treatment SS were also partitioned into those portions corresponding to linear trends in the data and those portions corresponding to deviations from

<sup>1</sup> A distinction between the method employed here and that of Blankenship and Miles (1968) and Heller and Yukl (1969) is useful. These researchers also asked managers to consider a set of hypothetical situations but asked them to do so as if the problems occurred within their own department. Such a procedure probably adds systematic differences to the stimulus value of each problem that reliably covary with the level of the respondent. The procedure has validity but should not be confused with the method employed here that more completely controls the stimuli and therefore is more appropriate to the particular hypotheses to be tested.

TABLE 2  
ANALYSES OF VARIANCE: SELF REPORT SCORES BY HIERARCHICAL LEVEL

	Cell means				F tests		
	<i>L</i> <sub>0</sub> (134)	<i>L</i> <sub>1</sub> (105)	<i>L</i> <sub>2</sub> (72)	<i>L</i> <sub>3</sub> (43)	<i>F</i> ( <i>df</i> = 3, $\infty$ )	Linear trend ( <i>df</i> = 1, $\infty$ )	Deviations from lin. ( <i>df</i> = 2, $\infty$ )
% AI	25.2	19.2	19.3	14.5	12.33**	32.14**	2.43
% AII	17.3	14.8	10.9	11.1	11.44**	31.63**	1.35
% CI	20.5	19.7	15.1	19.4	6.15**	6.83**	5.81**
% CII	22.9	29.1	30.8	32.5	13.45**	35.59**	2.38
% GII	14.1	17.3	23.9	22.6	17.81**	46.20**	3.62*
MLP	4.40	5.17	5.71	5.93	31.24**	89.35**	2.19

\*  $p < .05$ .

\*\*  $p < .01$ .

such trends. For this type of analysis, the treatments are assumed to form a series of equal steps along an ordered scale, i.e., the interval between *L*<sub>0</sub> and *L*<sub>1</sub> on a scale of hierarchical positions is assumed equal to the intervals between *L*<sub>1</sub>, *L*<sub>2</sub>, and *L*<sub>3</sub> and so on. Regression analysis is then employed using this assumed interval scale as a predictor variable.

An examination of Table 2 reveals higher levels of self reported participativeness at higher hierarchical levels. A significant linear trend for MLP is found, primarily the result of greater use at higher levels of CII and GII, comparatively participative processes, and less use at higher levels of AI and AII, comparatively autocratic processes. Calculation of estimated strength of effect ( $\hat{\omega}^2$ ) further reveals that hierarchical level treated as a categorical variable accounts for about 20.4% of the variance in MLP. Nearly all of this effect, however, is concentrated in the linear relationship between level and participation. Calculation of the strength of effect in the linear trend ( $\beta^2$ ) reveals that level treated as an equal interval scale accounts for about 20.0% of the variance in MLP.

Previous research into the associations between level and leadership style have not reported percent-of-variance scores. The evidence here suggests a surprisingly strong relationship between these variables relative to the weak relationships often found between other structural variables (e.g., organization size, span of control, centralization) and behavioral variables (Porter & Lawler, 1965). Moreover, the direction of the effect suggests that a previous estimate of the relationship between hierarchical level and dispositions toward participation to be in error. A strong, positive effect is obtained here, whereas a weak, negative effect was found in the attitude survey of Haire, Ghiselli and Porter. The behavior of managers at lower levels is less participative (or more autocrat-

TABLE 3  
ANALYSES OF VARIANCE: SUBORDINATE DESCRIPTION  
SCORES BY DESCRIBED HIERARCHICAL LEVEL

	Cell means			F tests		
	<i>L1</i> (131)	<i>L2</i> (39)	<i>L3</i> (55)	<i>F</i> ( <i>df</i> = 2, $\infty$ )	Linear trend ( <i>df</i> = 1, $\infty$ )	Deviations from lin. ( <i>df</i> = 1, $\infty$ )
% AI	26.9	22.0	20.7	5.63**	10.61**	.64
% AII	20.3	18.7	13.4	7.16**	13.48**	.83
% CI	22.5	20.3	24.0	1.27	.35	2.19
% CII	20.9	25.4	26.8	6.28**	11.99**	.58
% GII	9.3	13.5	15.0	7.33**	14.12**	.55
MLP	3.88	4.55	4.97	13.98**	27.68**	.27

\*  $p < .05$ .

\*\*  $p < .01$ .

ic) than that of managers at higher levels even when the nature of the task demands (i.e., the problem situations) is held constant.

These results are based solely on self reports of managers concerning the manner in which they would deal with each of the 30 cases, reports that are subject to possible biases. Table 3 offers comparable results from a second set of judgments concerning the leaders' likely responses. Subordinates' descriptions of their superiors' behavior suggest a similar relationship between hierarchical level and participativeness; a significant although weaker linear relationship is found between level and MLP ( $\hat{\rho}^2 = .106$ ).

The lower strength of association in the set of subordinate descriptions is not altogether unanticipated. Subordinates of the same superior are not likely to agree fully in their predictions of his behavior in the problem-set cases (Jago & Vroom, 1975). The situations are hypothetical, and subordinates may not have reliable bases on which to make their predictions, therefore adding considerable error variance to their set of responses. Nonetheless, to the extent that the two sets of data, superior self reports and subordinate descriptions, represent independent assessments of the behavior of the set of superiors, the validity of a positive relationship between level and participation is supported in these analyses.<sup>2</sup>

<sup>2</sup> Other indices besides those reported in Tables 2 and 3 can be computed from problem set data (Vroom & Yetton, 1973, pp. 126-130, 150-152). Analyses of these indices, which are available from the authors, reveal several of these variables to also reliably covary with hierarchical level. Analyses of covariance, however, strongly suggest that these additional bivariate relationships may be spuriously caused by each variable's statistical association with MLP. Although these additional indices may therefore lack any independent correlation with level, other covariance analyses do not suggest a similar conclusion for MLP itself.

TABLE 4  
COMPARISON OF SELF REPORTED AND DESCRIBED MLP BY RESPONDING LEVEL

Responding level	Self report	Descriptions of superiors	<i>t</i>
0	4.41	3.87	4.89**
1	4.89	4.55	1.57
2	5.71	4.97	3.22**
3	5.93	—	—

Note. Tests for difference within levels 0 and 1 are paired *t* tests (two-tailed) with *N*'s of 128 and 39, respectively. Test for level 2 is based on independent samples of sizes *N*<sub>S.R.</sub> = 72 and *N*<sub>DES</sub> = 55.

\*\**p* < .01.

*Within Level Analyses: Higher Hierarchical Levels Perceived as Less Participative*

The preceding analysis has examined both the self reports of managers and subordinate descriptions of managers and found support for the proposition that participation and hierarchical level are positively associated. The analysis presented in Table 4, however, illustrates another phenomenon: subjects at each responding level perceive the behavior of their superiors to be less participative than their own self reported behavior. (Some cell means are slightly different than those reported in Table 2, since the matching of data eliminated some cases from this analysis.) Row comparisons reveal that these differences are significantly different for *L*0 and *L*2 respondents and approach significance (*p* = .12) for *L*1. Thus each level perceives the level immediately above it as displaying more autocratic behavior than itself. These analyses, performed within level, are not necessarily incompatible with the previous conclusions. Indeed, inspections of the columns in Table 4 reveal the trends previously identified in Tables 2 and 3. These analyses simply point to important differences among perceptions *within* rather than *between* sets of managers.<sup>3</sup>

Two types of data have shown managers at higher levels to be more participative than those at lower levels. The analyses here, however, suggest that the relationship is perceived as opposite, at least for any two consecutive levels jointly considered. To test whether the perceived relationship extended beyond the consideration of subordinate-superior pairs, a questionnaire was given to a subsample of *L*1 managers asking them to rate the mean level of participativeness of each of three levels of higher management, *L*2 through *L*4, based on their observation of and

<sup>3</sup> Subordinates also perceive superiors to be more autocratic than the superior sees himself. Statistically tested elsewhere (Jago and Vroom, 1975), this relationship is found by comparing cell means from different rows and columns in Table 4.

TABLE 5  
MLP RATINGS FROM *L1* MANAGERS BY HIERARCHICAL LEVEL JUDGED

Source	SS	d.f.	MS	F
Between subjects	100.64	32		
Within subjects		66		
Treatment	41.27	2	20.64	16.25**
Linear trend	34.65	1	34.65	27.28**
Dev. from linear	6.62	1	6.62	5.21**
Residual	81.01	64	1.27	
Total	222.92			
	<i>L1</i>	<i>L2</i>	<i>L3</i>	<i>L4</i>
Cell means	5.19 <sup>a</sup>	4.50	3.23	3.05

<sup>a</sup> Actual mean of *L1* managers computed from problem-set data and provided to respondents.

\*  $p < .05$ .

\*\*  $p < .01$ .

interaction with these other levels. The scale values ranged from 0 to 10, corresponding to exclusive use of AI and GII respectively, and also contained an arrow at the point on the scale (5.2) that represented the average MLP scores of the *L1* respondents. Analysis of the results (Table 5) reveals a strong, linear relationship between perceived participativeness and level, the highest level (*L4*, Vice Presidents) believed to be the most autocratic. As treatments, hierarchical level is estimated to account for about 17% of the variance in MLP ( $\hat{\omega}^2$ ); 15% in the linear trend alone ( $\hat{\rho}^2$ ).

Nonparametric analysis of the data further reveals that 18 of the 33 respondents ordered the stimulus levels—and implicitly their own level—as follows: *L1* > *L2* > *L3* > *L4*. No respondent gave the opposite ordering. Kendall's coefficient of correspondence (*W*), a measure of the extent to which the entire set of rank orderings are similar, was computed to be 0.54 ( $\chi^2 = 53.34$ ,  $p < .01$ ). Together these analyses suggest the existence of a widely shared perception among *L1* managers of increasing autocracy at higher hierarchical levels.

## DISCUSSION

Differences in dispositions toward power-sharing behavior of managers at different organizational levels was explored using responses to a standardized set of decision-making situations. Whether the self reported responses of managers are considered or the statements of subordinates describing these managers, the analyses present a consistent picture of increasing participativeness with increasing hierarchical level. Both sets of data are inconsistent with the attitude differences reported for U. S. managers by Haire, Ghiselli and Porter (1966) and offer results more

compatible with research concerning the broader proposition that participative behavior (as influenced by both disposition and situation) increases with level (e.g., Blankenship & Miles, 1968; Heller & Yukl, 1969),

Members' perceptions of higher hierarchical levels indicate, however, that this relationship is perceived as opposite. Also consistent with other research (Vroom & Yetton, 1973, pp. 70-71; Jago & Vroom, 1975), subjects in this investigation exhibited the belief that higher levels of management are increasingly more autocratic in their leadership dispositions. These perceptions can occur, moreover, within the same organization where between-level analyses suggest the opposite relationship to exist. Differences among levels in both self reports and subordinate descriptions are diametrically opposed to the cognized differences of organizational members.

The disparate forms of the relationship between level and leadership style naturally raise questions concerning which form is veridical, i.e., which empirical model best represents the true relationship between the variables. Since all techniques employed to measure a disposition are subject to possible biases, no evidence exists to choose conclusively between the two functional forms of the relationship.

To the present authors, however, it seems more likely that use of participative methods does increase with level and that this occurs both as a result of beliefs concerning the utility and appropriateness of participative practices, which are more characteristic of higher level managers, and differences in the nature of decisions to be made as one ascends the organizational hierarchy. Such an interpretation is consistent with the prior findings of Blankenship and Miles, and those of Heller and Yukl as well as data from self reports and subordinate descriptions using the problem set as an instrument to measure respondents' beliefs about what they would do if confronted with standardized cases. The fact that highly convergent results concerning level differences are obtained from descriptions by superiors and by their subordinates using this instrument and that these results are in substantial agreement with findings of other investigators using different methods is in itself evidence both of the construct validity of the problem set as a measuring instrument and of the positive relationship between level and style. Further evidence for the validity of generalizations derived from responses to the problem set may be found in a recent study by Jago and Vroom (Note 1) which shows that managers' responses to the set are indeed predictive of their reported behavior in actual decision-making situations encountered in their roles.

If the problem set results and other findings indicative of a positive relationship between hierarchical relationship and participativeness are taken as the true state of affairs, how can one account for the fact that this is not perceived by lower-level supervisors at least as indicated in their

global ratings of observed differences among levels above them in the organizational hierarchy? There are several bases on which to question the likely accuracy of such a perception. It is reasonable to assume that a subordinate would have considerable knowledge of the decision-making behavior of his own superior but less knowledge concerning higher levels with whom he interacts less frequently (Burns, 1954). From such considerations it follows that judgements about the leadership styles at levels above that of one's own superior would be made under conditions of considerable uncertainty and subject to errors, the magnitude of which should increase with distance in the organizational hierarchy.

These perceptual errors, moreover, may be systematically, rather than randomly, distributed. A member may feel powerless when confronted with decisions that affect him but in which he did not actively participate. He may equate this feeling of powerlessness with the use of autocratic decision methods even if the actual process was highly participative but involving only levels above his own.

Features of the process of communicating a decision down the hierarchical structure may exacerbate this perception. There may be a desire on the part of higher level managers to protect their status by taking personal responsibility for decisions that actually originate at higher levels (Burns, 1954; Heller, 1971). As instructions or orders are passed down the hierarchy, organization members may therefore confuse their superior's information-giving role with a decision-making role. If the members were not actually involved in the decision process, they may incorrectly attribute autocratic behavior to their own superior when the actual process was highly participative but involving other levels. Such an attribution may occur even in the absence of behavior associated with "status protection." Evidence from a laboratory experiment (Thibaut & Riecken, 1955) suggests that people are more likely to attribute actions of a high-status individual to internal reasons pertaining to his own desires (and consistent with autocratic behaviors) than to external factors and pressures that might be expected in more participative decision strategies.

If a subordinate is likely to confuse his superior's autocratic decision behavior and his behavior in implementing the decisions made by higher managerial levels, the frequency of such confusion should vary with the hierarchical position of the superior-subordinate pair. In their roles, lower-level managers have more decisions to implement—more downward communication to pass along—since there exist more decision-making groups and individuals above them in the hierarchy. Their subordinates, therefore, have more of an opportunity to attribute incorrectly autocratic decision behavior for those acts associated with decision implementation than do the subordinates of higher-level managers. In our

data, this should contribute to more congruent perceptions between subordinates and superiors as hierarchical level increases.

To test this proposition, the data were examined for cases where a manager's self report could be matched with descriptions of his behavior by his immediate subordinates. For each of these managers, subordinate descriptions were pooled to obtain an average MLP score describing their superior. These scores were then subtracted from the self reported MLP of superiors and the differences submitted to a one-way ANOVA with the hierarchical level of the superior as the nominal independent variable. The results of this analysis indicate that the mean difference scores do decrease and subordinate perceptions become more congruent with the self reported behavior of superiors as the hierarchical level of the superior-subordinate pairs increases, but the effect does not reach statistical significance because of more within-level than between-level variation. The direction of observed differences is encouraging, but by no means proven statistically. More research is required to determine the processes which result in the cognitive maps which individuals have of leadership styles practiced at different organizational levels—maps that in the case of the lower-level manager in the organization studied are inconsistent with actual differences observed through comparison across levels of both supervisors' descriptions and descriptions by their subordinates.

Aside from their causes, the relationships found in our data may have important consequences for how the organization functions. In a leader-member relationship, the morale and performance gains that the superior hopes are outcomes of participative behavior (Miles, 1964) may not meet expectations if the subordinate does not perceive the same level of participation reported by the superior. Indeed, the degree of "psychological participation" felt by subordinates and not their actual participation may be the determinants of these outcomes (French, Israel, & Ås, 1960).

Perhaps of more importance, however, is the potential effect of misperception on the modeling behavior of organizational members. Coates and Pellegrin (1957) identified the tendency of managers to acquire the attitudes, values and behavior patterns of successful supervisors in the belief that such behavior is an important factor related to promotion. If such modeling, however, is based on inaccurate perceptions of the behavior to be modeled, dysfunctional changes toward more autocratic behavior may result.

The perceptual discrepancies, however, that lead to these undesirable outcomes can be avoided. Organizations can intervene in the processes related to each of the likely causal factors, in so doing creating greater congruence between behaviors and their perception. Decentralization of

decisions would decrease the number of levels through which downward communication would travel, providing those most affected by the outcome of the decision more involvement in, or at least more knowledge of, the decision process used. Each level can also provide all other levels with more explicit, unambiguous information about the decision processes chosen to form policies and solve problems that cannot be further decentralized. In its own right such information would be helpful in preventing misperception, but it would also serve to prevent "status protection" behavior possible without such information. Of course, managers themselves can be taught to recognize and be more open about constraints on their decision-making discretion if the organizational costs or penalties for doing so are removed.

It is therefore entirely possible to find organizations where discrepancies between behavior and its perception do not exist. Although the relationships found in this investigation are felt to generalize to a substantial portion of multilevel organizations, examples may be found where positive relationships between reported behavior and level and also between perceived behavior and level do exist together. The relative number of such organizations and the efficacy of various factors in explaining their differences remain questions for further study.

## REFERENCES

Bass, B. M., & Barrett, G. V. *Man, work, and organizations*. Boston: Allyn & Brown, 1972.

Bennis, W. G., & Slater, P. E. *The temporary society*. New York: Harper & Row, 1968.

Blankenship, L. V., & Miles, R. E. Organizational structure and managerial decision making. *Administrative Science Quarterly*, 1968, 13, 106-120.

Brinkerhoff, M. B. Hierarchical status, contingencies, and the administrative staff conference. *Administrative Science Quarterly*, 1972, 17, 395-407.

Burns, T. The directions of activity and communication in a departmental executive group. *Human Relations*, 1954, 7, 73-97.

Coates, C. H., & Pellegrin, R. J. Executives and supervisors: Informal factors in differential bureaucratic promotion. *Administrative Science Quarterly*, 1957, 2, 200-215.

French, J. R. P., Jr., Israel, J., & Ås, D. An experiment on participation in a Norwegian factory. *Human Relations*, 1960, 13, 3-19.

Haire, M., Ghiselli, E. E., & Porter, L. W. *Managerial thinking: An international study*. New York: John Wiley & Sons, 1966.

Heller, F. A. *Managerial decision-making: A study of leadership styles and power-sharing among senior managers*. London: Tavistock Publications, 1971.

Heller, F. A., & Yukl, G. Participation, managerial decision-making and situational variables. *Organizational Behavior and Human Performance*, 1969, 4, 227-241.

Hemphill, J. K. Dimensions of executive positions. *Research Monograph #98*. Bureau of Business Research, Ohio State University, 1960.

Hill, W. A., & Hughes, D. Variations in leader behavior as a function of task type. *Organizational Behavior and Human Performance*, 1974, 11, 83-96.

Jago, A. G., & Vroom, V. H. Perceptions of leadership style: Superior and subordinate descriptions of decision-making behavior. In J. G. Hunt & L. Larson, (Eds) *Leadership frontiers*. Kent State University Press, 1975.

Leavitt, H. J. *Managerial psychology*. Chicago: University of Chicago Press, 1964.

Lieberman, S. The effects of changes in roles on the attitudes of role occupants. *Human Relations*, 1956, 9, 385-402.

Martin, N. H. The levels of management and their mental demands. In W. L. Warner & N. H. Martin (Eds.), *Industrial man*. New York: Harper & Brothers, 1959.

Miles, R. E. Conflicting elements in managerial ideologies. *Industrial Relations*, 1964, 4, 77-91.

Mintzberg, H. *The nature of managerial work*. New York: Harper & Row, 1973.

Porter, L. W., & Lawler, E. E. Properties of organizational structure in relation to job attitudes and job behavior. *Psychological Bulletin*, 1965, 64, 23-51.

Steinman, J. I. *Some antecedents of participative decision-making*. Unpublished doctoral dissertation, University of California at Berkeley, 1974.

Thibaut, J. W., & Riecken, H. W. Some determinants and consequences of the perception of social causality. *Journal of Personality*, 1955, 24, 113-133.

Vroom, V. H., & Jago, A. G. Decision making as a social process: Normative and descriptive models of leader behavior. *Decision Sciences*, 1974, 5, 743-769.

Vroom, V. H., & Yetton, P. W. *Leadership and decision-making*. Pittsburgh: University of Pittsburgh Press, 1973.

#### REFERENCE NOTE

1. Jago, A. G. & Vroom, V. H. *Predicting leader behavior from a measure of behavioral intent* (Working Paper). Unpublished manuscript, Yale University, 1976.

RECEIVED: June 12, 1975